

Title (en)

STABLE AND ALL SOLUTION PROCESSABLE QUANTUM DOT LIGHT-EMITTING DIODES

Title (de)

STABILE UND IN ALLEN LÖSUNGEN VERARBEITBARE QUANTENPUNKT-LEDs

Title (fr)

DIODES ÉLECTROLUMINESCENTES À POINTS QUANTIQUES STABLES ET TRAITABLES ENTIÈREMENT EN SOLUTION

Publication

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Application

EP 10797783 A 20100707

Priority

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Abstract (en)

[origin: WO2011005859A2] Embodiments of the invention are directed to quantum dot light emitting diodes (QD-LEDs) where the electron injection and transport layer comprises inorganic nanoparticles (I-NPs). The use of I-NPs results in an improved QD-LED over those having a conventional organic based electron injection and transport layer and does not require chemical reaction to form the inorganic layer. In one embodiment of the invention the hole injection and transport layer can be metal oxide nanoparticles (MO-NPs) which allows the entire device to have the stability of an all inorganic system and permit formation of the QD-LED by a series of relatively inexpensive steps involving deposition of suspensions of nanoparticles and removing the suspending vehicle.

IPC 8 full level

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Citation (search report)

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- [Y] US 2006105200 A1 20060518 - POPLAVSKYY DMYTRO [US], et al
- [XYI] JAN W STOUWDAM AND RENE' A J JANSSEN: "Red, green, and blue quantum dot LEDs with solution processable ZnO nanocrystal electron injection layers", JOURNAL OF MATERIALS CHEMISTRY, ROYAL SOCIETY OF CHEMISTRY, vol. 18, 5 March 2008 (2008-03-05), pages 1889 - 1894, XP008146135, ISSN: 0959-9428, DOI: 10.1039/B800028J
- See references of WO 2011005859A2

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